VEGETATION CLASSIFICATION AND SURVEY

International Association for Vegetation Science (IAVS)

Vegetation Classification and Survey 3: 145–148
doi: 10.3897/VCS.76387

NOMENCLATURAL PROPOSAL PHYTOSOCIOLOGICAL NOMENCLATURE

Proposal (29) to conserve the name *Omphalodo nitidae-Coryletum avellanae* Amigo, G. Azcárate et Romero 1994 with a conserved type

Manuel A. Rodríguez-Guitián[1], Javier Amigo Vazquez[2]

1 *Department of Plant Production and Engineering Projects, Higher Polythecnic Engineering School, Universidade de Santiago de Compostela (USC), Lugo, Spain*

2 *Department of Botany, Faculty of Pharmacy, Universidade de Santiago de Compostela (USC), Santiago de Compostela, Spain*

Corresponding author: Manuel A. Rodríguez-Guitián (manuelantonio.rodriguez@usc.es)

Academic editor: Wolfgang Willner ♦ **Received** 11 October 2021 ♦ **Accepted** 28 February 2022 ♦ **Published** 15 July 2022

Abstract

The association *Omphalodo nitidae-Coryletum avellanae* was defined by assembling relevés on (mainly) *Corylus avellana* woods on nutrient-rich substrates in the westernmost part of the Cantabrian Range (NW Spain). However, a mesophytic oak forest dominated by *Quercus robur* (with noteworthy amount of *Corylus avellana* in the undercanopy) was selected as its holotype. The most common interpretation of this association in the subsequent literature has been as seral *Corylus avellana* forests. For this reason, we propose the application of article 53 of the ICPN (4th ed.), which allows the name to be maintained with a new nomenclatural type based on the more recent interpretation of this syntaxon.

(29) *Omphalodo nitidae-Coryletum avellanae* Amigo, G. Azcárate et Romero 1994, typus cons. propos.

Typus: Amigo et al. (1994), table 2: rel. 4 (typus cons. propos.)

Taxonomic reference: Castroviejo et al. (1986–2020).

Syntaxonomic reference: Rivas-Martínez (2011).

Abbreviations: ICPN = International Code of Phytosociological Nomenclature.

Keywords

calcicolous forest, conserved type, hazelnut-tree forest, nomenclature, NW Spain, seral forest, western Orocantabrian sector

Introduction

The phytosociological checklists used in the late 20th century for the NW quadrant of the Iberian Peninsula included deciduous forests with a mesophytic character growing on nutrient-rich soils within the alliance *Carpinion betuli* Issler 1931 (Fernández-Prieto 1981; Rivas-Martínez et al. 1984; Fernández-Prieto and Vázquez 1987; Díaz-González and Fernández-Prieto 1994). Leaving aside the Pyrenean subprovince, only three associations were recognised within this alliance at that time in Iberian territories with an Atlantic influence (Cantabrian-Atlantic and Orocantabrian subprovinces): *Mercuriali perennis-Fraxinetum excelsioris* (currently denominated *Helleboro occidentalis-Tilietum cordatae* for reasons of homonymy), distributed throughout Orocantabrian territories; *Crataego laevigatae-Quercetum roboris*, exclusive to the high valleys of the tributaries of Ebro river in the Basque Country and Navarre; and *Polysticho setiferi-Fraxinetum excelsioris*, which is widely distributed at lower altitudes in the Cantabrian valleys from the Basque Country and Navarre towards Asturias. Over the years, several authors have

PENSOFT

Copyright *Manuel A. Rodríguez-Guitián & Javier Amigo Vazquez*. This is an open access article distributed under the terms of the Creative Commons Attribution License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

included examples of forests with a diverse floristic-structural physiognomy and characteristics under the name of this last association (which is the oldest of the three). These include relevés with a predominance of *Fagus sylvatica*, *Tilia platyphyllos*, *Ulmus glabra*, *Fraxinus excelsior*, *Quercus robur*, etc., often with a high cover of *Corylus avellana*. This decision was possibly conditioned by the original name proposed by Tüxen and Oberdorfer (1958) for this association ("*Corylo-Fraxinetum cantabricum*").

The association *Omphalodo-Coryletum*

Against this background, Amigo et al. (1994) described the association *Omphalodo nitidae-Coryletum avellanae* with data from the westernmost part of the Orocantabrian subprovince and some Cantabrian-Atlantic localities in northern Galicia, according to the most detailed biogeographical delimitation available at the time (Rivas-Martínez 1987). The association was justified based on a table comprising 17 relevés from the east of the province of Lugo (Figure 1), which also included a synthetic column prepared with five relevés from Terra de Lemos (Cabe River basin, south of the province of Lugo) (Romero-Buján 1993). This new association was described as a type of low-growing forest (8–10 m), dominated by *Corylus avellana*, but with varying admixture of other tree species in its upper stratum and a high richness in hemicryptophytes and nemoral geophytes. Although *Corylus avellana* was clearly the dominant species in the majority of relevés (Braun-Blanquet combined index 4 or 5), in the same table the authors included tree formations that were dissimilar from the physiognomic point of view due to the presence of emergent tree species (*Quercus robur*, *Acer pseudoplatanus*, *Fraxinus excelsior*, *Ilex aquifolium*, etc.), whose coverage was not greater than that of *Corylus avellana*, but which exceeded it in terms of height. The authors stressed that the *Omphalodo-Coryletum* appeared habitually with an immature structure as a result of logging operations over hundred years, and that it could develop towards a diverse type of forest as a consequence of vegetation succession, mainly "mixed oak forest" or even Pyrenean oak forest (forest dominated by *Quercus pyrenaica*). It was deduced from these findings that this was a community of seral character.

In order to highlight what could be the most mature and optimal version of this association, the authors established the nomenclatural type for the association *Omphalodo-Coryletum* (table 2: rel. 12, *op. cit.*) in an oak forest relevé dominated by *Quercus robur* (Braun-Blanquet combined index: 4), although with a lesser presence (indexes between + and 2) of other deciduous tree species (*Acer pseudoplatanus*, *Fraxinus excelsior*, *Prunus avium*, *Castanea sativa*, *Betula pubescens* and *Ulmus glabra*), overshadowing an understory of *Corylus avellana* (Braun-Blanquet combined index: 4), *Crataegus monogyna* and *Ilex*

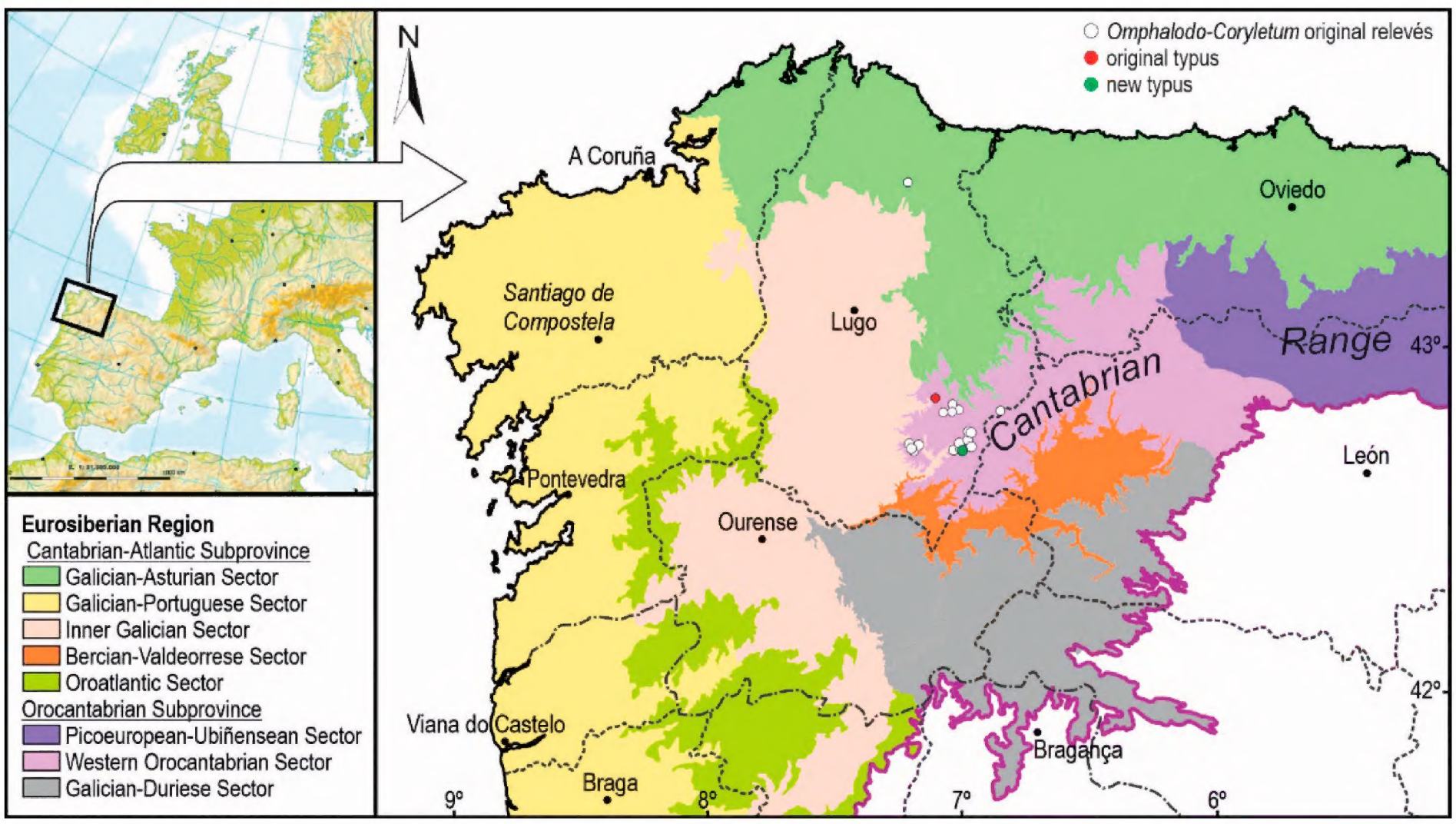

Figure 1. Location of the original relevés of the association *Omphalodo nitidae-Coryletum avellanae* published by Amigo et al. (1994) within the delimitation of biogeographic units (sectors) proposed by Fernández-Prieto et al. (2020). All the relevés except one are within the western Orocantabrian Sector. The original *holotypus* (red dot) and the new one proposed here (green dot) are highlighted.

aquifolium, and many nemoral herbaceous species in the lower level. Due to its floristic-structural characteristics, this type relevé can be said to constitute a clear exception within the dominant physiognomy in the forests included in this table. In conclusion, a plant community dominated by *Corylus avellana* was described and attributed a seral character (immature forest), although its type relevé was that of a mesophytic forest dominated by *Quercus robur*.

It should be noted that the locality of the type relevé (Cancelo, Triacastela, Lugo province, at an altitude of 820 m a.s.l.), combined with the great majority of the remaining relevés in the original table for this association, lies unequivocally within the biogeographical territory known as the Orocantabrian subprovince (Figure 1), whose delimitation in its westernmost part has not undergone any significant change since the publication of Amigo et al. (1994) (compare Rivas-Martínez 1987 with Rodríguez-Guitián and Ramil-Rego 2008; Rivas-Martínez et al. 2017; Fernández-Prieto et al. 2020).

Advances in the study of the arboreal vegetation in the Iberian-Atlantic territory around the turn of the century have been instrumental in differentiating pre-forest communities from mature forests. This also affected the interpretation of hazelnut-tree forests. In the past, they were regarded as juvenile aspects of certain types of "climactic" forests, with a modest size, relatively unstructured, with very little incorporation of any species larger than the hazelnut tree in the canopy. In terms of syntaxonomy, they were considered variants or sub-associations (Izco et al. 1986; Rodríguez-Guitián et al. 2001), while they are now considered autonomous pre-climactic or secondary communities and associations in their own right (Rivas-Martínez et al. 2002; Álvarez-Arbesú 2008; Carreras et al. 2016). In the first exhaustive checklist of Iberian vegetation (Rivas-Martínez et al. 2001), this concept was reaffirmed by differentiating a new alliance of pre-forests or "softwood forests" within the class *Querco-Fagetea sylvaticae*, which a little later (Rivas-Martínez and Costa 2002) received the name *Betulion fontqueri-celtibericae*. The *Omphalodo-Coryletum* was included in this alliance together with two other associations of Orocantabrian hazelnut-tree forests. Based on this synthesis, the general consensus was to consider *Omphalodo-Coryletum* as a seral hazelnut-tree forest in the westernmost part of the Orocantabrian territory, overlooking the atypical type relevé (a mesophytic oak forest) of the association. Examples of this interpretation can be found, in agreement with most of the relevés in the original table, in the works of Honrado et al. (2002), Honrado (2003), ALFA (2004), Monteiro-Henriques (2010), and it was confirmed in the most recent vegetation checklists in Spain (Rivas-Martínez 2011) and Portugal (Costa et al. 2012).

In conclusion, the name *Omphalodo nitidae-Coryletum avellanae* has been generally interpreted in a floristic-structural and dynamic sense different from its *typus* relevé. We consider this to be a clear-cut case for the application of Art. 53 of the latest edition of the ICPN (Theurillat et al. 2021).

In application of this article, we propose the following conserved type for the name *Omphalodo nitidae-Coryletum avellanae* Amigo, G. Azcárate et Romero 1994, whose content we transcribe below: Amigo et al. (1994), table 2, relevé 4.

ES: Lugo, Folgoso do Courel, between Moreda and Devesa da Rogueira (Courelian district, western Orocantabrian sector); altitude: 720 m a.s.l.; slope: 40°; aspect: W; tree cover: 100%; relevé area: 250 m^2; number of taxa: 41. Tree layer (> 3 m): *Corylus avellana* 5, *Acer pseudoplatanus* 1, *Castanea sativa* 1, *Crataegus monogyna* +, *Ilex aquifolium* +. Other species: *Polystichum setiferum* 4, *Hedera hibernica* (sub *H. helix*) 3, *Melica uniflora* 2, *Euphorbia dulcis* 1, *Lilium martagon* 1, *Lonicera periclymenum* 1, *Mercurialis perennis* 1, *Phyllitis scolopendrium* 1, *Poa nemoralis* 1, *Polygonatum verticillatum* 1, *Primula acaulis* 1, *Sanicula europaea* 1, *Stellaria holostea* 1, *Allium ursinum* +, *Daphne laureola* +, *Helleborus foetidus* +, *Cicerbita muralis* +, *Neottia nidus-avis* +, *Omphalodes nitida* +, *Potentilla sterilis* +, *Ornithogalum pyrenaicum* r, *Rubus* sp. 1, *Tamus communis* 1, *Circaea lutetiana* +, *Clematis vitalba* +, *Crepis lampsanoides* +, *Epilobium parviflorum* +, *Erica arborea* +, *Euphorbia amygdaloides* +, *Geranium robertianum* +, *Oxalis acetosella* +, *Saxifraga spathularis* +, *Teucrium scorodonia* +, *Viola riviniana* +, *Lamium maculatum* r, *Rumex acetosella* r.

Author contributions

Both authors have contributed to the discussion of the nomenclatural problem, to the analysis of the data and to the debate on the proposed solution.

Acknowledgements

Our thanks to Professor Federico Fernández-González (University of Castilla La Mancha) for his detailed revision of the original text and his suggestions for nomenclatural resolution.

References

ALFA [Associação Lusitana de Fitossociologia] (2004) Tipos de hábitat naturais e semi-naturais do Anexo I da Directiva 92/43/CEE (Portugal continental): fichas de caracterizaçao ecológica e de gestão para o plano sectorial da Rede Natura 2000. Ficha hábitat 9160. Relatório [Natural and semi-natural habitat types of Annex I of Directive 92/43/EEC (continental Portugal): ecological characterization and management files for the sector plan of the Natura 2000 Network. Habitat file 9160. Report.] Lisbon. http://www2.icnf.pt/portal/pn/biodiversidade/rn2000/resource/doc/rn-plan-set/fich-tecn-habitats [accessed 30 Aug 2021].

Álvarez-Arbesú R. (2008) La cubierta vegetal del litoral asturiano [Documentos del Jardín Botánico Atlántico de Gijón 5]. Jardín Botánico Atlántico, Gijón, ES, 127 pp.

Amigo J, Giménez de Azcárate J, Romero-Buján MI (1994) *Omphalodo nitidae-Coryletum avellanae*, a new mesophytic woodland community of the northwest Iberian Peninsula. Botanica Helvetica 104: 103–122.

Carreras J, Carrillo E, Ferré A, Font X, Ninot JM, Font J, Gesti J, Vilar L, Aymerich P, … Salvat A (2016) Manual dels hàbitats de Catalunya.Volum IV. 3. Vegetació arbustiva i herbàcia [Habitats handbook of Catalonia. Volume IV.3. Shrubby and herbaceous vegetation]. Generalitat de Catalunya, Barcelona, ES, 309 pp.

Castroviejo S et al. (Eds) (1986–2020) Flora Iberica, Vols. I–XXI. Publ. Real Jardín Botánico, C.S.I.C. Madrid, ES.

Costa JC, Neto C, Aguiar C, Capelo J, Espírito Santo MD, Honrado J, Pinto-Gomes C, Monteiro-Henriques T, Sequeira M, Lousã M (2012) Vascular plant communities in Portugal (Continental, the Azores and Madeira). Global Geobotany 2: 1–180.

Díaz-González TE, Fernández-Prieto JA (1994) La vegetación de Asturias. Itinera Geobotanica 8: 243–528.

Fernández-Prieto JA (1981) Estudio de la flora y vegetación del concejo de Somiedo (Asturias). Ph.D. thesis, Universidad de Oviedo, Oviedo, ES.

Fernández-Prieto JA, Vázquez VM (1987) Datos sobre los bosques asturianos orocantábricos occidentales. Lazaroa 7: 363–382.

Fernández-Prieto JA, Amigo J, Bueno Á, Herrera M, Rodríguez-Guitián MA, Loidi J (2020) Nota 1: Justificación de una nueva delimitación de los territorios iberoatlánticos peninsulares. Naturalia Cantabricae 8(2): 18–24.

Honrado J (2003) Flora e vegetação do Parque Nacional da Peneda-Gerês [Flora and vegetation of Peneda-Gerês National Park]. Ph.D. thesis, Universidade do Porto, Porto, PT.

Honrado J, Alves P, Alves HN, Barreto-Caldas F (2002) Notas do Herbário da Estação Florestal Nacional (LISFA): Fasc. XVI: XXXIII: Ten new syntaxa from the Miniensean biogeographic subsector (northwestern Portugal). Silva Lusitana 10(2): 247–259.

Izco J, Amigo J, Guitián J (1986) Identificación y descripción de los bosques montanos del extremo occidental de la Cordillera Cantábrica. Trabajos Compostelanos de Biología 13: 185–203.

Monteiro-Henriques T (2010) Landscape and phytosociology of the Paiva river's hydrographical basin. Ph.D. thesis, Universidade Técnica de Lisboa, Lisbon, PT.

Rivas-Martínez S (1987) Mapa de series de vegetación de España. ICONA, Madrid, ES, 268 pp. [+ 30 maps]

Rivas-Martínez S (2011) Mapa de series, geoseries y geopermaseries de vegetación de España [Memoria del mapa de vegetación potencial de España. Parte II]. Itinera Geobotanica (Nueva Serie) 18(1): 5–424.

Rivas-Martínez S, Costa M (2002) *Betulion fontqueri-celtibericae* Rivas-Martínez & Costa all. nova hoc loco. Itinera Geobotanica 15: 58.

Rivas-Martínez S, Díaz-González TE, Fernández-Prieto JA, Loidi J, Penas A (1984) La vegetación de la alta montaña cantábrica: los Picos de Europa. Ediciones Leonesas. León, ES, 295 pp.

Rivas-Martínez S, Fernández-González F, Loidi J, Lousâ M, Penas A (2001) Syntaxonomical checklist of vascular plant communities of Spain and Portugal to association level. Itinera Geobotanica 14: 5–341.

Rivas-Martínez S, Díaz TE, Fernández-González F, Izco J, Loidi J, Lousâ M, Penas A (2002) Vascular plant communities of Spain and Portugal. Addenda to the syntaxonomic checklist of 2001. Itinera Geobotanica 15(1): 5–432.

Rivas-Martínez S, Penas A, Díaz-González TE, Cantó P, del Río S, Costa JC, Herrero L, Molero J (2017) Biogeographic units of the Iberian Peninsula and Balearic Islands to district level. A concise synopsis. In: Loidi J (Ed.) The Vegetation of the Iberian Peninsula, Vol. I. Springer, Dordrecht, NL, 131–188. https://doi.org/10.1007/978-3-319-54784-8_5

Rodríguez-Guitián MA, Ramil-Rego P (2008) Fitogeografía de Galicia (NW Ibérico): análisis histórico y nueva propuesta corológica. Recursos Rurais 1(4): 1–50.

Rodríguez-Guitián MA, Amigo J, Romero-Franco R (2001) Aportaciones sobre la interpretación, ecología y distribución de los bosques supratemplados naviano-ancarenses. Lazaroa 21: 51–71.

Romero-Buján MI (1993) La vegetación del valle del río Cabe (Terra de Lemos, Lugo). Ph.D. thesis, Universidad de Santiago de Compostela, Santiago de Compostela, ES.

Theurillat JP, Willner W, Fernández-González F, Bültmann H, Čarni A, Gigante D, Mucina L, Weber H (2021) International Code of Phytosociological Nomenclature. 4th edn. Applied Vegetation Science 24: e12491. https://doi.org/10.1111/avsc.12491

Tüxen R, Oberdorfer E (1958) Die Pflanzenwelt Spaniens. II Teil. Eurosibirische Phanerogamen-Gesellschaften Spaniens. Veröffentlichungen des Geobotanischen Institutes Rübel in Zürich 32: 1–298.

E-mail and ORCID

Manuel A. Rodríguez-Guitián (Corresponding author, manuelantonio.rodriguez@usc.es), ORCID: https://orcid.org/0000-0001-5647-7594
Javier Amigo Vazquez (javier.amigo.vazquez@usc.es), ORCID: https://orcid.org/0000-0002-8984-5899